Viktor Senderov

1. Academic Curriculum Vitæ

My vision is to harness Human Intelligence for biodiversity informatics using semantic databases and probabilistic programming languages

Professional experience

Sep. 2022 –   **Postdoctoral researcher in computational phylogenetics**, *École normale supérieure (ENS-PSL)* , Paris, Morlon lab

Leading the Q-T-Birds project: Quantitative tools for assessing the correlated evolution of genes and phenotypes: application to birds color patterns at the Morlon Lab.

2022   **Researcher in computer science**, *KTH Royal Institute of Technology*, Stockholm, Broman lab

Front-end compiler design of the probabilistic programming language for phylogenetics TreePPL at the Broman Lab

2020 – 2022   **Marie Skłodowska-Curie postdoctoral researcher in bioinformatics**, *Swedish Museum of Natural History*, Stockholm, Ronquist Lab

Leading the EU-funded PhyPPL project: First applications of universal probabilistic programming to hard problems in phylogenetics at the Ronquist Lab

2018 – 2020   **Postdoctoral researcher in bioinformatics**, *Swedish Museum of Natural History*, Stockholm, Ronquist lab

Proof of concept for universal probabilistic programming languages for phylogenetics

2015 – 2018   **Marie Skłodowska-Curie Ph.D. student and data scientist**, *Pensoft Publishers*, Sofia, Bulgaria

Developed the OpenBiodiv-O ontology and the OpenBiodiv knowledge-management system for biodiversity information at Pensoft Publishers

2015   **Intern**, *Harrison CST Holdings GmbH*, Munich, Germany

Legal research and Microsoft Visual Basic programming (clinical trials industry)

2014 – 2015   **Guest scientist in bioinformatics**, *Max-Planck-Institute for Biochemistry*, Munich, Habermann Lab

Worked on viPEr and PEANuT: graphical tools for creating and analyzing focus networks to identify cross-talk between molecules and pathways at the Habermann Lab

2006 – 2010   **Unix software engineer level II**, *Hewlett-Packard*, Sofia, Bulgaria

German clients integration, HP-UX 11.31

Education

Graduate studies

27 July 2019   **Ph.D. in Computer Science**, *Bulgarian Academy of Sciences*, Sofia, Bulgria
Doctoral thesis: *The Open Biodiversity Knowledge Management System in Scholarly Publishing*

2015 – 2018   **Marie Skłodowska-Curie Ph.D. student**, *Pensoft Publishers and Bulgarian Academy of Sciences*, Sofia, Bulgaria
Part of BIG4 international training network: BIG4: Biosystematics, informatics and genomics of the big 4 insect groups

10 Aug 2014   **Master's of Science in Biostatistics**, *Ludwig-Maximilians University*, Munich
Master's thesis topic: *Estimating population genetic parameters of complex evolutionary models from sequenced regions by means of approximate Bayesian computation*

2012 – 2014   **Master's student in Biostatistics**, *Ludwig-Maximilians University*, Munich

2010 – 2011   **Graduate student (Ph.D. track) in Biostatistics**, *University of California*, Davis

Undergraduate studies

30 July 2009   **B.Sci. in Computational Mathematics degree**, *Otto-von-Guericke University*, Magdeburg, Germany
Bacherlor thesis in the field of computer geometry: *A theoretical and experimental evaluation of selected separation bounds*

2002 – 2004, 2007 – 2009   **Undergraduate student in Computermathematik**, *Otto-Von-Guericke-University*, Magdeburg, Germany
Leave of absence between 2004 to 2007 due to medical reasons. In 2006 started working at HP Sofia and continued to work remotely till 2010 simultaneously with resuming my studies at the OvGU in 2007

2001   **Undergraduate student**, *International University Bremen (IUB, now Jacobs)*

Distinctions, prizes, awards

April 2022   **Distinguished Artifact Award**, *European Symposium on Programming (ESOP)*
for the paper *Compiling Universal Probabilistic Programming Languages with Efficient Parallel Sequential Monte Carlo Inference*

2020 – 2022   **Marie Skłodowska-Curie Postdoctoral Fellowship**, *National Museum for Natural History*, Stockholm, Sweden

13 Feb 2018   **Featured article**, *Journal of Biomedical Semantics*, OpenBiodiv-O paper

2019   **Hall of FameLab winner (first place)**, *Natural History Museum*, London
World Wide Webs: science communication competition

11 Feb 2018   **Silver medalist (second-place) of #Datathon18**, *Data analysis competition*

26 Mar 2017   **Gold medalist Winner (first place) of #Datathon17**, *Data analysis competition*

2015 – 2018   **Marie Skłodowska-Curie Ph.D. Position**, *Pensoft Publishers and Bulgarian Academy of Sciences*, Sofia, Bulgaria

2012 – 2014   **Full DAAD scholarship Master's**, *Ludwig-Maximilians-Universität*, Munich

2001   **Full scholarship for Bachelor's**, *International University Bremen (Jacobs)*, Bremen

1999   **Golden medal (summa cum laude)**, *The U.S.A. National Latin Exam*

Science communication

25 Dec 2020   **Appearance on Bulgarian national TV**
The scientific discoveries of 2020 (in Bulgarian)

28 Jul 2020	**Invited speaker**, *ratio.bg web forum*
	Mathematical modeling (in Bulgarian); watch here
27 Sep 2019	**Invited speaker**, *Natural History Museum*, London
	World Wide Webs: Science communication conference Hall of FameLab, winner first place
2018 – 2019	**FameLab Science Communicator**
	National finalist in Bulgaria and invited to FameLab Hall of Fame in London.
31 Mar 2017	**TV Interview**, *Bloomberg TV*
	Discussing the importance of data science for society

Supervision and pedagocical development

2022 – 2023	**M.Sci. student supervision**, *École Normale Supérieure*, Paris, France
Apr 2019	**Famelab Training Masterclass**, *Cheltenham Festivals and British Council*, Sofia
2017	**"R U BIO"**, *National Museum of Natural History*, Sofia, Bulgaria
	Course development: statistics and programming for undergraduate and graduate biology students

Leadership and organization experience

Dec 2022	**Miking Workshop 2022**, *KTH Campus, Digital Futures Hub*, Stockholm
	I was part of the organizing team and also gave a presentation at the Miking Workshop 2022. Miking is an open-source project developed at KTH Royal Institute of Technology.
2020 – 2022	**Chair of Marie Curie Alumni Association**, *Sofia*, Bulgaria
Jan 2019	**International Data Science Hackathon: Let's Hack News Manipulation**, *Data Science Society*, Hybrid event: Sofia and online
	I was a **senior co-organizer** of an international data science competition to develop artificial intelligence approaches to fight propaganda in mass media
Apr 2018	**BIG4 Workshop on Entrepreneurship and Grant Writing**
	As part of the Marie Curie training network during my Ph.D. studies, I co-organized a workshop on career development, grant writing and entrepreneurship

Teaching experience

2020	**Computational skills for biologists**, *National Museum for Natural History and Stockholm University*, Sweden
2020	**Literature course in phylogenetics**, *National Museum for Natural History*, Sweden
25 Aug 2017	**Bioinformatics with R**, *Software University*, Sofia, Bulgaria
2017	**"R U BIO"**, *National Museum of Natural History*, Sofia, Bulgaria
2015	**Mathematik II – Wahrscheinlichkeitsrechnung und Statistik**, *Ludwig-Maximilians-Universität*, Munich, Germany
2010 – 2011	**STA 13 Elementary Statistics**, *University of California*, Davis